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A CASE ILLUSTRATING THE SUCCESSFUL TREATMENT OF PARASYPHILIS.*

By TOM A. WILLIAMS, M. B., C. M. (Edin.), Washington, D. C.

One of the strongest evidences against the syphilitic nature of locomotor ataxia and paresis has been the apparent failure of antispecific treatment to benefit them. The following case is cited in order to show that this attitude is not justifiable. It will appear from it that sufficiently early diagnosis is an important factor in the successful treatment, and that the method of administration of the remedy plays a large part in its success. Moreover, iodides are relatively inefficient as compared with mercury; for each, when given by the mouth, disorders assimilation, and the latter may be given endermically or by injection with even greater systemic effect than by the mouth.

The mere giving of a drug, however, is not all the treatment; for the diet must be most carefully controlled in order to avoid the intoxicative processes which so retard assimilation; and nutrition must be stimulated by adequate exercise, which will secure periodic flushing of the tissues with highly oxygenated blood.

The case was seen with Dr. Main, of Washington, at the suggestion of Dr. Prentiss, of that city, October 30, 1908. He was a man of 54, a farmer, who had been in a "neurasthenic state" since the spring, for which rest, change, and a sea voyage had been prescribed without more than temporary benefit. He complained of insomnia, general nervousness and a state of suffering, incapacity and irritability.

The family history was negative.

Previous History. His wife is living and healthy. There were no children or miscarriages. He denies syphilis, but some years ago had typhoid fever, during which he lost his hair, which has now grown. When closely questioned he recollects having been subject to spells of depression every few years, and also to periods of activity and energy, which he strikingly describes as "wanting to get at it." He had noticed no change in his speech.

Present State. When seen by me, he appeared neither depressed, shaky, nor apprehensive, though the previous day he had felt perturbed, and despaired of recovery. His chief trouble was insomnia.

Physical Examination. In spite of the cold of the room, the window having been widely open, when he was stripped for examination, perspiration appeared in both axillæ and down the internal border of the left arm; later some drops appeared on the left leg. This want of correspondence of the sudorific function with the stimulus of heat, and the local, if not segmental, distribution of the anomaly indicated a serious perturbation of the autonomic nervous system. The localization of the disturbance moreover, signified organic involvement rather than general toxemia. Facial, tongue, and ocular movements were steady.

Motility. The muscular power was strong, but the movements were slightly incoördinate, especially in the right hand; and when the arms were extended there was a rhythmical tremor which became irregular during the maintenance of the attitude. The diadokokinesis was hardly impaired. The platysma trembled when the mouth was pulled to the right.

Sensibility was intact except that in the left lower extremity L. V. and S 1 were insensitive to the diapason. A similar anesthesia existed over the distribution of the posterior primary divisions over the sacrum. This shaded off above as far as the second lumbar spine, where the vibrations were normally perceived.

Reflexes. The pupils contracted, both to light and accommodation, but in each case tended to re-dilate while still stimulated. The left pupil was slightly irregular. On the right side, the radial reflex was active and that of the triceps was feeble. On the left side, the radial reflex was feeble and that of the triceps was active. The Achilles jerks were equal. The left knee-jerk was exaggerated; the right was diminished. Both abdominal reflexes were diminished, especially the left, which was almost absent. The cremaster reflexes were very faint and sometimes crossed. On stroking the sole of the left foot, the toes flex and the tensor fasciæ femoris contracted; the right foot dorsi flexed and flexion

*For details concerning the *diagnosis* of such cases, see the author's contributions, entitled The Early Diagnosis of Tabes Dorsalis (*Arch. of Diagnosis*, N. Y., July, 1909); Psychometry in the Diagnosis of Cerebral Disorders (*Internat. Clinics*, do). Concerning *Pathogenesis*, see *Path. of Tabes Dorsalis* (*Am. Jour. Med. Sci.*, 1908, Aug.) and *Va. Med. Semi-Mo.*, do). Concerning *treatment*, his articles in *Med. Record*, April, and *Brit. Med. Jour.*, Oct. 2, 1909; also *Trans. of Tri-State Med. Asnn.* 1909.

of the toes was scarcely appreciable; though the tensor fascia femoris contracted actively, there was no response with the Oppenheim and Gordon methods.

Speech. He said there had been no change; but it was drawling, slithering, and there was now and then a catch in a word or letter, and sometimes a repetition of such commencing consonants as C and D, and such words as "not" and "denied." The test phrases were all well said. The writing, for an educated man, son of a physician, was rather irregular and unpunctuated.

Psychic Examination.—Memory. Failed consistently to remember eight figures; sometimes failed with seven. Could remember six letters, but not seven. With Winches 12-letter position test, after an interval of forty seconds he scored thirty; but when sixty seconds elapsed his scores averaged only twenty-one out of a possible thirty-six. Memory for connected narrative was not impaired and dictation was accurate.

Calculation seven from a hundred test required eighty-five seconds, and was correct until sixteen when he answered eight on two occasions. On the first attempt after reaching 79 he said 62; and although hesitating and apparently confused, he was conscious of a lapse, and recommenced. The second test was completed in forty seconds.

Generalization and judgment were not tested from lack of time; but insight seemed lacking, for in his manner he portrayed no consciousness of the gravity of his situation, during my examination, at least; although Dr. Main tells me that he has been often much discouraged by his illness, and the patient himself informed me that he felt a lack of interest, which begins with a peculiar feeling in the abdomen, as if everything there were in motion—a twitching, like the sensation occurring after a debauch. This is followed by a sinking feeling and unhappiness.

He was advised a regime, and he forthwith began to take one-third of a grain hydrargyri succinimidi every other day. He began to sleep much better, and to be less irritable and nervous. At the wish the cerebro-spinal fluid was examined and was reported to be clear and free from cellular elements after a single examination.

On November 13th, the perception was tested by pictures I use for the purpose, each of which contains an impossible conjunction, such as smoke and trees blowing in different directions at the same time, a horse drawing a load up hill with a slackened chain, shadows in wrong position, a person looking out of a window situated in a chimney stack from which smoke is issuing, a man watering flowers with a broken hose—all very glaring faults. Although he remarked upon the occasional and irrelevant peculiarity of the drawings, in no instance did he detect the absurdity portrayed.

Mistakes at 51-43 and 29-21; 110-7, time 30 seconds. A division was inaccurate.

His recognition of lengths was only one millimetre in error, and this can hardly be called abnormal. After five minutes' study he remembered perfectly twelve nonsense syllables, and reproduced them in order. He was only inaccurate in two places when he endeavored to replace in order eight words seen one minute before; with a second set of eight, only two sets were correctly placed, although he believed it the more exact reproduction of the two. From a list of twenty words, he picked out eight previously seen, making only one error of insertion, and being uncertain of another word. Neither of these tests indicates serious abnormality. Later, in taking seven from a hundred, he was correct in thirty-five seconds, though he hesitated a little. He then repeated the test without hesitation in twenty-five seconds. The speech showed now an occasional doubling of a labial, a substitution with rapid correction, such as "exped-expectations," and the omission of a word in a difficult phrase, as, for example, "annoys" from "what noise annoys a noisy oyster most."

I could not elicit the arm reflexes and found that the right patellar reflex responded only on reinforcement. The right pupil reflex was quite sluggish, especially on the nasal side.

Examination with a lens showed irregularities of both pupils, especially the left.

There was trembling of the naso-labial folds palate and right eyebrows when the mouth was open. There was no ataxia.

I had no difficulty in making a diagnosis—the precursors of general paralysis of the insane, the physical symptoms pointing strongly towards a syphilitic (parasyphilitic) affection of the nervous system. Pupillary irregularity, failure to maintain reflex impressions, and seg-

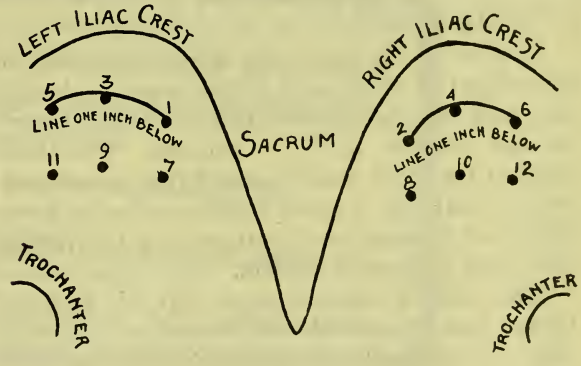
mental sluggishness are almost pathognomonic. When lateral inequalities of the reflexes occur without symptoms indicative of peripheral neuritis or muscle involvement one must strongly suspect spinal-root disease and the sensory less in L. V. and S 2 strongly corroborate this. The trembling of the hands and face are important indices of the extensiveness of the morbid processes, and the speech defect is suspicious of the disease in question.

But it is not until we examine mental functions that the diagnosis is assured; and it is by psychometric methods, and by them only, that this case shows the gross failure of perception demonstrated by the tests with the pictures of impossible conjunctions, the quantitative diminution of memory, and the errors of calculation, small and occasional, though, the last are.

The patient was again seen in the spring. He had performed five months of hard work on his farm, never having felt better, but "began to feel nervous again" for some ten days. Another mercurial course was advised—this time grey oil being given every five days. Fifteen injections comprised the course. He quickly responded and worked again during the whole summer. He was again seen in November, 1909, towards the end of the third course of injections. He complained that during the last fifteen days he had been nervous, had slept worse, and was losing weight. A complete physical examination revealed no localized invasion of the meninges, central parenchyma, or peripheral nerves. Indeed, there no longer existed the manifest diminution of sensibility in the left fifth lumbar and first sacral regions which he had presented when first seen. He had, however, undergone very unusual exertion for some weeks, having taken long journeys to replenish his stock of cattle, and I believe that this was the cause of his setback, and that a short rest will completely restore him.

Technique of Treatment. A short account of the technique of treatment may be instructive.

One may choose either the soluble salts of mercury, or fine emulsions of the metal or insoluble salts. They are made with olive oil and lanolin or parolein in such proportion as to remain solid at ordinary temperatures so as to prevent precipitation of the suspended mercury. On warming to 98° Fahr., they melt sufficiently to be drawn into a hypodermic syringe. About 10 minims of the emulsion is a convenient dose, and this should contain about one grain of metallic mercury or calomel, the latter being the more active preparation. The syringe should be entirely of glass and must be cleaned in warm sterile olive oil before putting it away. The needle should be of platinum-iridium, for a steel needle quickly corrodes with the mercury, and then may break off in the patient's tissues, a complication not to be desired. The administration should take place at least once a week, as complete absorption usually occurs within that time. It is made preferably in the buttock, left and right sides being used on alternate weeks. The same spot should not be chosen for each administration. A convenient method is to draw an imaginary line of two fingers' breadth below the crest of the ileum, beginning an inch from the sacrum, making the three successive injections each an inch laterally to the preceding alternately on each side. At the end of six weeks the process may be recommenced one inch lower down than the preceding. Thus:



The same precautions are advisable in using the soluble preparations, which must be administered every other day. About 10 minims of the solution should contain from one-twelfth to one-sixth of a grain of mercuric chloride, or even up to one-third of a grain of mercuric succinimid, a preparation preferred by some physicians. But in my experience, simple chloride gives no pain to speak of when a fine needle is used. Of course, this must be of platinum-iridium or corrosion roughens the needle, and unnecessarily tears the tissues. It is not even necessary to make the solution isotonic, simple distilled water being adequate.

As absorption is rapid, a dose must be given at least every other day; and about thirty injections are usually administered.

A still more rapid and intense method is the intravenous. A similar soluble preparation is used, some physicians preferring the cyanide salt of mercury. Its disadvantage is the respiratory spasm as it reaches the medulla, and I personally prefer the chloride. Great care must be used that the point of the needle is really in the vein, and the only way to insure this is to withdraw a drop of blood immediately before the injection. Of course, the vein is made turgid by a light tourniquet. The most convenient spot is the median cephalic, or basilic vein. If the solution is injected around the vein a painful and sometimes dangerous, phlebitis may occur. I, myself, use a needle of exceedingly fine calibre made by Gallante, of Paris, but many therapeutists use a needle of ordinary hypodermic size.

1758 *K Street.*

A CURSORY REVIEW OF PULMONARY TUBERCULOSIS.*

By BITTLE C. KEISTER, A. M., M. D., Roanoke, Va.

In view of the great importance attached to the subject of pulmonary tuberculosis in the recent past and the extreme and diversified theories and opinions held by eminent scientists, medical text-book writers and fellow practitioners of medicine, I come before you with some degree of trepidation in attempting to grapple with such a monster subject.

More than a hundred years ago this monster tyrant was recognized and treated as a contagious and dangerous disease and its victims were shunned and rigorously isolated. Three restrictions were enforced in Portugal and also in the city of Naples. The physicians were required by law to report all cases of consumption and were liable to heavy penalties for their failure to do so.

All consumptives, as previously mentioned, were isolated, and their clothing, the furniture of their rooms, and all the ordinary articles used, were destroyed after their death. The rooms were also thoroughly cleansed and purified. These laws were rigorously enforced for more than fifty years. (Bonny).

Notwithstanding these facts, this great plague continued unabated and undaunted in its devastating career, spreading the death-laden germs throughout all Europe. These same restrictions, with many more added on, have, for the past quarter of a century been enforced in our own tubercular stricken country, and yet the great plague is still roaming, claiming his victims to the sad tune of *one out of every seven of the deaths that occur in the entire world* from all causes, including war, famine, pestilence and alcohol.

The every day experience of pathologists connected with our leading scientific schools and institutes, in the recognition of healed and unsuspected lesions in the lungs and other parts of the body, is sufficient evidence to demonstrate the wide prevalence of non-active infections as well as the inherent powers of individual resistance.

Statistical observations concerning the frequency of tuberculous lesions, found during post-mortem inquiry have varied considerably, according to the thoroughness with which all parts of the body have been explored. During recent years these researches have been conducted in a more systematic manner than formerly, and reported cases of latent infection are far more numerous. Naegeli's statistics upon this subject obtained from the critical study of five hundred autopsies at Prof. Ribbert's institute at Zurich, are particularly startling. After carefully inspecting every organ of the body including the lymphatic glands as well as examining a large number of microscopic sections he reports the finding of tuberculous lesions in 97 per cent. of all the cases up to the fifteenth year, 96 per cent. up to the eighteenth year, and nearly 200 per cent. up to the fortieth year. These results apparently corroborate the popular German belief that every person possesses a slight focus of tubercular infection.

The obscure localized lesions, affecting the vast number of human beings compared with those actually succumbing to pulmonary tuberculosis, affords a striking commentary upon the effectiveness of self-immunization. In this connection it is not only necessary to consider the many individuals who perish annually from the disease but also the myriads of those whose ca-

*Read before fortieth annual session of Medical Society of Virginia, held at Roanoke, October 5-8, 1909.

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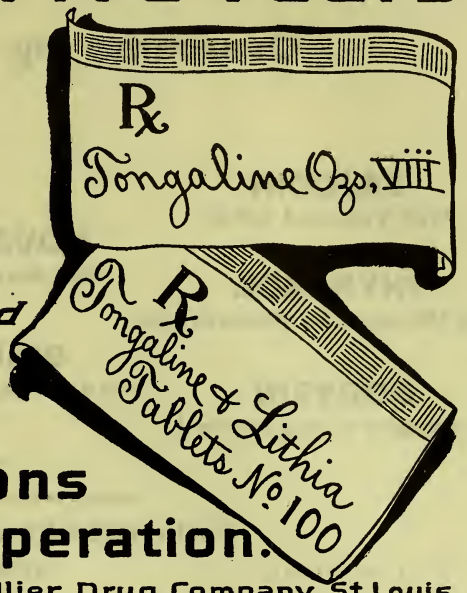

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